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Biased Insert for Installing Data Transmission Components in Downhole Drilling Pipe

Abstract

An apparatus for installing data transmission hardware in downhole tools includes an insert insertable into the box end or pin end of drill tool, such as a section of drill pipe. The insert typically includes a mount portion and a slide portion. A data transmission element is mounted in the slide portion of the insert. A biasing element is installed between the mount portion and the slide portion and is configured to create a bias between the slide portion and the mount portion. This biasing element is configured to compensate for varying tolerances encountered in different types of downhole tools. In selected embodiments, the biasing element is an elastomeric material, a spring, compressed gas, or a combination thereof.